

Comet Origins

National Science Education Standards addressed:

Grades 5-8

Unifying Concepts and Process:

As a result of their activities in grades K-12, all students should develop understanding and abilities aligned with the following concepts and processes:

- Evidence, models and explanation
 - Models help scientists and engineers understand how things work
 - Models are tentative schemes or structures that correspond to real objects, events, or classes of events, and that have explanatory power

Science as Inquiry:

As a result of their activities in grades 5-8, all students should develop

- Abilities necessary to do scientific inquiry
 - Develop descriptions, explanations, predictions and models using evidence
 - Use mathematics in all aspects of scientific inquiry
- Understandings about scientific inquiry
 - Different kinds of questions suggest different kinds of scientific investigations. Some investigations involve... making models.

Earth and Space Science:

As a result of their activities in grades 5-8, all students should develop an understanding of

- Earth in the Solar System
 - The Earth is the third planet from the sun in a system that includes the moon, the sun, eight other planets and their moons, and smaller objects, such as asteroids and comets
 - Most objects in the solar system are in regular and predictable motion.
 - Gravity is the force that keeps planets in orbit around the sun and governs the rest of the motion in the solar system.

Science and Technology:

As a result of their activities in grades 5-8, all students should develop an understanding of

- Understandings about Science and Technology
 - Students should organize materials and other resources, plan their work, and make good use of group collaboration where appropriate.

AAAS Atlas Concept Map:

Grade 6-8

The Universe: The Solar System

...Other chunks of rock mixed with ice have long, off-center orbits that carry them close to the sun, where the sun's radiation (of light and particles) boils off frozen materials from their surfaces and pushes it into a long illuminated tail